JP2004062860

FIG.1

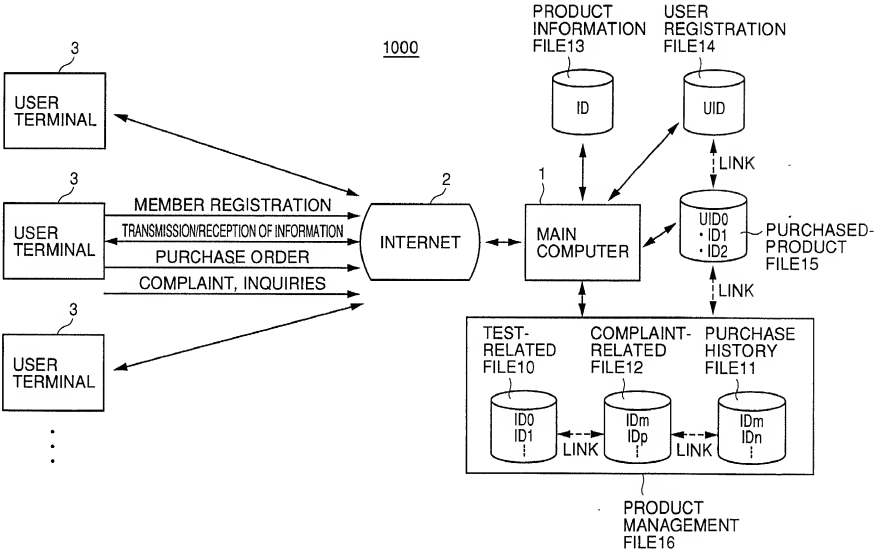

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FIG.2

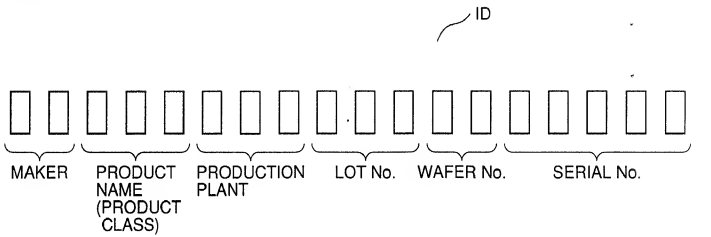

FIG.3

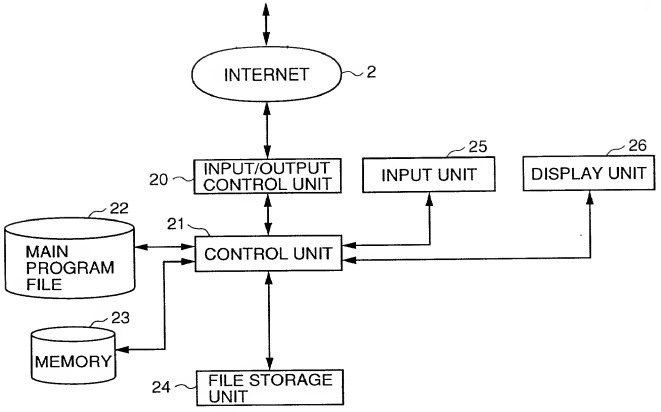

FIG.4

13

31 PRODUCT NAME	32 ID	33 COST	34 SPECIFICATION	35 RELIABILITY LEVEL	36 TEST SUMMARY
CHIP001	ID0	10,000	△	A	···
CHIP002	ID1	15,000	×	C	···
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•

FIG.5

14

40	MEMBER NAME		AAABBC
41	USER IDENTIFICATION NUMBER(UID)		12345
42	ADDRESS		----
43	COMMUNICATION	TELEPHONE No.	XXX-123
		E-MAIL ADDRESS	ABC@DEF
44	CREDIT CARD No.		1111-2222
45	PASSWORD		6789

FIG.6

15

41 UID	32 ID
12345	ID0
	ID1
	⋮
	IDm

FIG.7

10

32 ID	50 TEST CONTENTS	51 TEST RESULTS
ID0	GENERAL OPERATION TEST ONLY	---
ID1	UP TO ACCELERATION TEST	---
⋮	⋮	⋮

FIG.8

11

32 ID	60 ORDER DATE	61 WARRANTY PERIOD	62 DELIVERY DATE
ID3	00/1/1	02/1/1	00/1/2
ID5	00/1/5	02/1/5	00/1/5
ID10	00/2/1	02/2/1	00/2/3
⋮	⋮	⋮	⋮

FIG.9

12

32 ID	70 COMPLAINT INFORMATION
ID0	×××
ID7	△△△△
⋮	⋮

FIG. 10

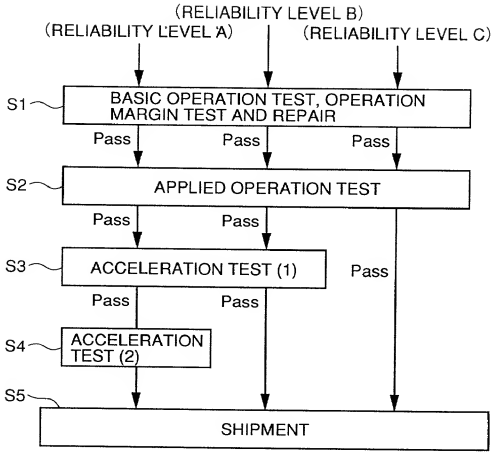

FIG. 11

RELIABILITY LEVEL	WARRANTY PERIOD	COST	MALFUNCTION OCCURRENCE RATE
A	T0	M0	E0
B	T1	M1	E1
C	T2	M2	E2

FIG. 12

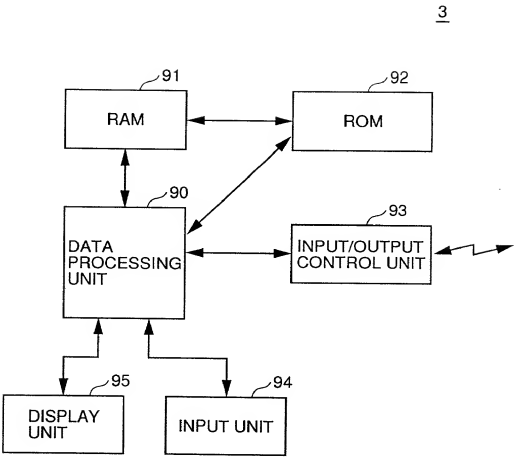
3
91
RAM
92
ROM
90
DATA PROCESSING UNIT
93
INPUT/OUTPUT CONTROL UNIT
95
DISPLAY UNIT
94
INPUT UNIT

FIG.13

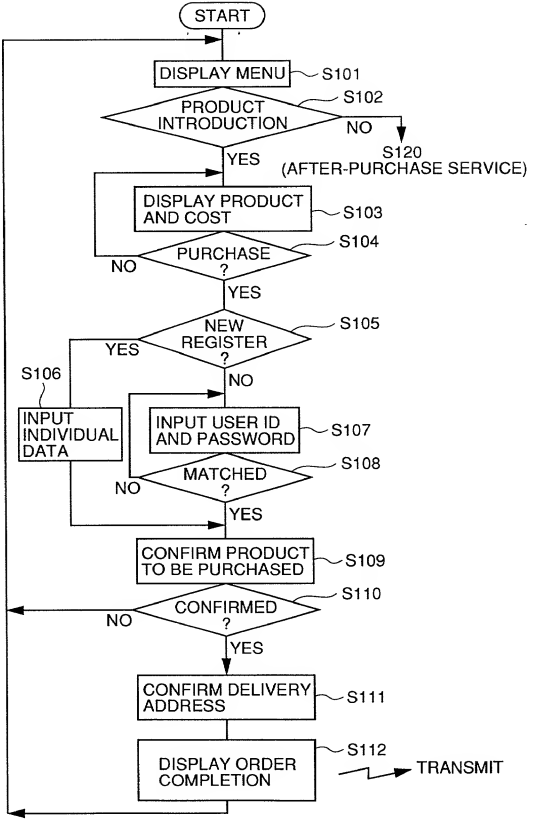
START
DISPLAY MENU
S101
PRODUCT INTRODUCTION
S102
NO
S120
(AFTER-PURCHASE SERVICE)
YES
DISPLAY PRODUCT AND COST
S103
PURCHASE ?
S104
NO
YES
NEW REGISTER ?
S105
YES
S106
NO
INPUT INDIVIDUAL DATA
INPUT USER ID AND PASSWORD
S107
MATCHED ?
S108
NO
YES
CONFIRM PRODUCT TO BE PURCHASED
S109
CONFIRMED ?
S110
NO
YES
CONFIRM DELIVERY ADDRESS
S111
DISPLAY ORDER COMPLETION
S112
TRANSMIT

FIG. 14

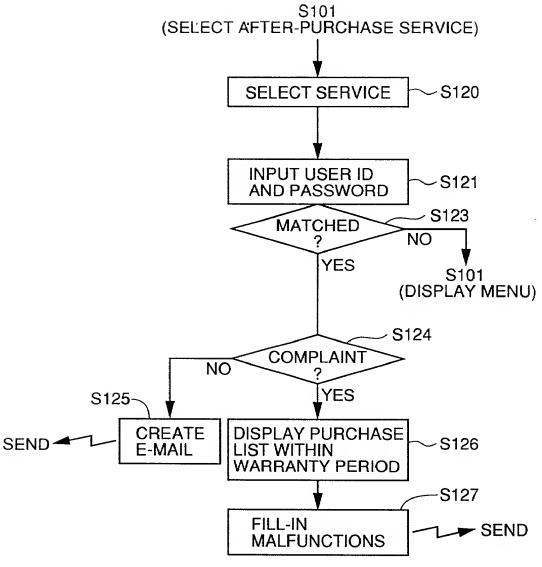
S101
(SELECT AFTER-PURCHASE SERVICE)
SELECT SERVICE
S120
INPUT USER ID AND PASSWORD
S121
MATCHED ?
S123
NO
YES
S101
(DISPLAY MENU)
COMPLAINT ?
S124
NO
YES
S125
SEND
CREATE E-MAIL
DISPLAY PURCHASE LIST WITHIN WARRANTY PERIOD
S126
S127
FILL-IN MALFUNCTIONS
SEND

FIG. 15

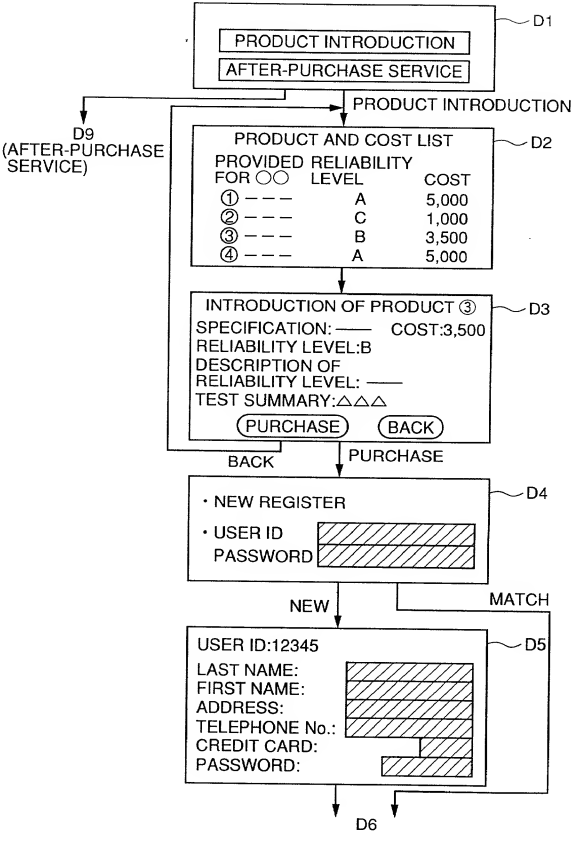
PRODUCT INTRODUCTION
AFTER-PURCHASE SERVICE
D1
PRODUCT INTRODUCTION
D9
(AFTER-PURCHASE SERVICE)
PRODUCT AND COST LIST
D2
PROVIDED FOR ○○
RELIABILITY LEVEL
COST
① – – – A 5,000
② – – – C 1,000
③ – – – B 3,500
④ – – – A 5,000
INTRODUCTION OF PRODUCT ③
D3
SPECIFICATION: —— COST:3,500
RELIABILITY LEVEL:B
DESCRIPTION OF RELIABILITY LEVEL: ——
TEST SUMMARY:△△△
PURCHASE
BACK
BACK
PURCHASE
• NEW REGISTER
• USER ID
PASSWORD
D4
NEW
MATCH
USER ID:12345
D5
LAST NAME:
FIRST NAME:
ADDRESS:
TELEPHONE No.:
CREDIT CARD:
PASSWORD:
D6

FIG. 16

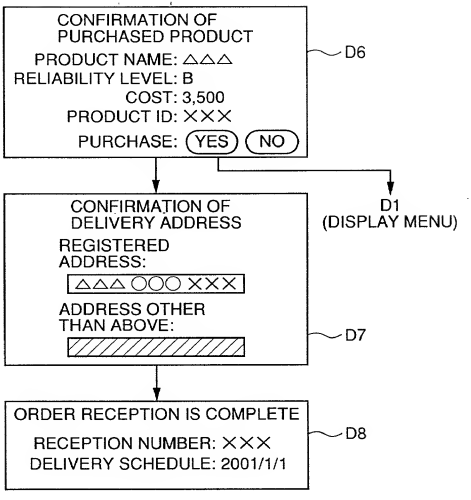
CONFIRMATION OF
PURCHASED PRODUCT
PRODUCT NAME: △△△
RELIABILITY LEVEL: B
COST: 3,500
PRODUCT ID: ×××
PURCHASE: YES NO
D6
CONFIRMATION OF
DELIVERY ADDRESS
REGISTERED
ADDRESS:
△△△○○○×××
ADDRESS OTHER
THAN ABOVE:
D7
D1
(DISPLAY MENU)
ORDER RECEPTION IS COMPLETE
RECEPTION NUMBER: ×××
DELIVERY SCHEDULE: 2001/1/1
D8

FIG. 17

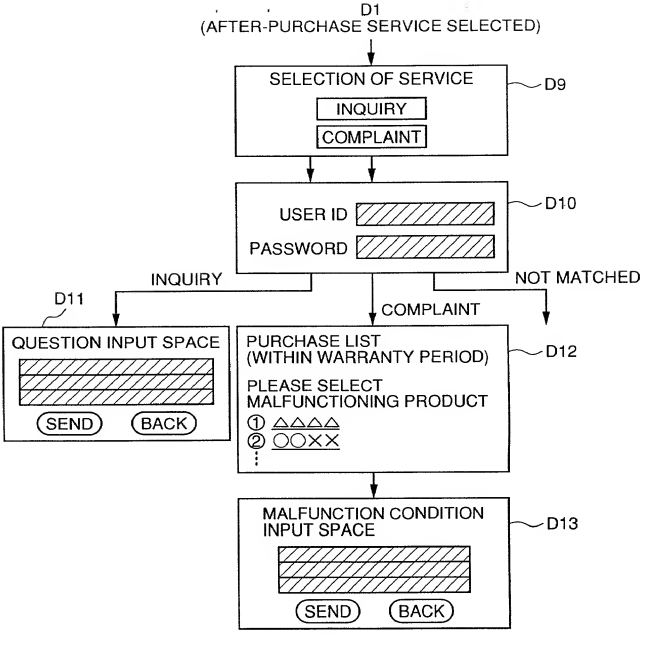
D1
(AFTER-PURCHASE SERVICE SELECTED)
SELECTION OF SERVICE
INQUIRY
COMPLAINT
D9
USER ID
PASSWORD
D10
INQUIRY
COMPLAINT
NOT MATCHED
D11
QUESTION INPUT SPACE
SEND
BACK
PURCHASE LIST
(WITHIN WARRANTY PERIOD)
PLEASE SELECT
MALFUNCTIONING PRODUCT
① △△△△
② ○○××
D12
MALFUNCTION CONDITION
INPUT SPACE
SEND
BACK
D13

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FIG.18

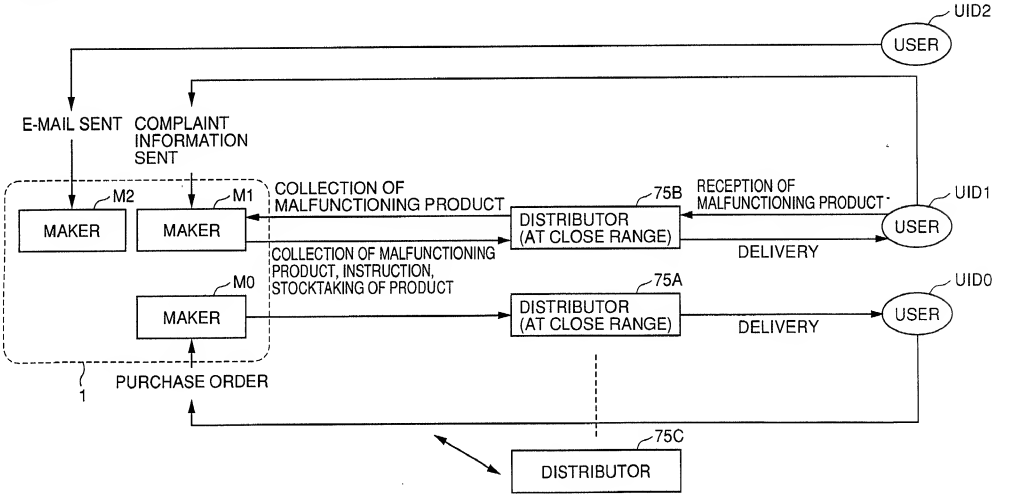


FIG. 19 PRIOR ART

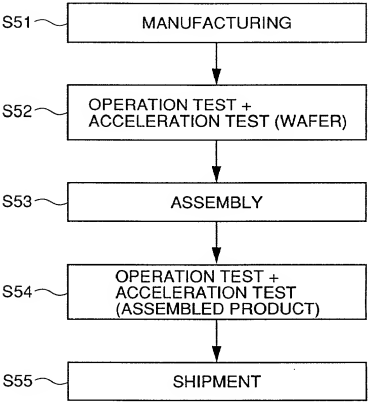


FIG.20A PRIOR ART

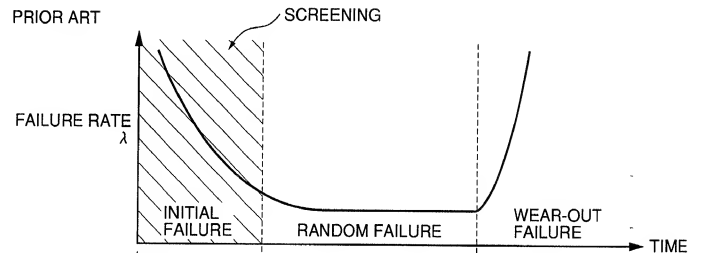
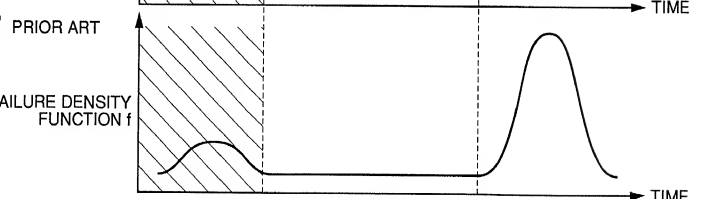


FIG.20B PRIOR ART



λ : PERCENTAGE OF NUMBER OF FAILURES OCCURRED DURING ΔT TO NUMBER OF DEVICES

f : PERCENTAGE OF NUMBER OF FAILURES OCCURRED DURING ΔT TO NUMBER OF ALL PARAMETERS

FIG.21 PRIOR ART

QUALITY DIVISION	APPLICATION	QUALITY
FOR HIGH RELIABILITY	IMPORTANT DEVICES (TRANSPORTATION-RELATED DEVICES, MEDICAL DEVICES, AUTOMOBILES)	<10FIT
FOR GENERAL INDUSTRIES	INDUSTRIAL DEVICES (OA DEVICES, ELECTRIC MEASURING DEVICES)	~100FIT
FOR GENERAL CONSUMER	GENERAL DEVICES (AV DEVICES, HOME ELECTRIC APPLIANCES)	~200FIT

1FIT = 10^{-9} device /hour